

Observations, and then considered and made use of them. The Observations are these.

O B S. I.

Compressing two Prisms hard together that their Sides (which by chance were a very little convex) might somewhere touch one another: I found the place in which they touched to become absolutely transparent, as if they had there been one continued piece of Glass. For when the Light fell so obliquely on the Air, which in other places was between them, as to be all reflected; it seemed in that place of contact to be wholly transmitted, inasmuch that when looked upon, it appeared like a black or dark Spot, by reason that little or no sensible Light was reflected from thence, as from other places; and when looked through it seemed (as it were) a hole in that Air which was formed into a thin Plate, by being compressed between the Glasses. And through this hole Objects that were beyond might be seen distinctly, which could not at all be seen through other parts of the Glasses where the Air was interjacent. Although the Glasses were a little convex, yet this transparent Spot was of a considerable breadth, which breadth seemed principally to proceed from the yielding inwards of the parts of the Glasses, by reason of their mutual pressure. For by pressing them very hard together it would become much broader than otherwise.

O B S.

O B S. II.

When the Plate of Air, by turning the Prisms about their common Axis, became so little inclined to the incident Rays, that some of them began to be transmitted, there arose in it many slender Arcs of Colours which at first were shaped almost like the Conchoid, as you see them delineated in the first Figure. And by continuing the motion of the Prisms, these Arcs increased and bended more and more about the said transparent Spot, till they were completed into Circles or Rings incompassing it, and afterwards continually grew more and more contracted.

These Arcs at their first appearance were of a violet and blue Colour, and between them were white Arcs of Circles, which presently by continuing the motion of the Prisms became a little tinged in their inward Limbs with red and yellow, and to their outward Limbs the blue was adjacent. So that the order of these Colours from the central dark Spot, was at that time white, blue, violet; black; red, orange, yellow, white, blue, violet, &c. But the yellow and red were much fainter than the blue and violet.

The motion of the Prisms about their Axis being continued, these Colours contracted more and more, shrinking towards the whiteness on either side of it, until they totally vanished into it. And then the Circles in those parts appeared black and white, without any other Colours intermixed. But by further moving the Prisms about, the Colours again emerged out of the whiteness, the violet and blue as its inward Limb, and at its out-

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